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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/676,273 | LEVIN ET AL. | |
| | Examiner | Art Unit | |
| | BRIAN L. ALBERTALLI | 2626 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *20 August 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-26 and 28-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26 and 28-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments, see Appeal Brief, filed 20 August 2008, with respect to claims 1-26 and 28-34 have been fully considered and are persuasive. The rejections of claims 1-26 and 28-34 have been withdrawn.

However, new grounds of rejection are given below.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 4 and 14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 4 and 14 are directed to removing image blur resulting from portions of a surface being located outside a depth of field of an image capturing element. Pages 6-7 of the originally filed specification describe the various image processing techniques applied prior to performing OCR on the text of the document. Specifically, page 6, line 17 to page 7, line 2 discusses distortions that arise from a surface (such a large bulge in a book). This section, however, only describes fixing warping that occurs from such a

distortion (e.g. the letters nearer the bulge of the book will appear smaller and curvature of the line of text may occur). There is no discussion of blurring (i.e. as related to focus) in this section. Page 7, lines 7-13 describes a focusing technique to reduce blurring. However, there is no indication that this focusing correction differentiates areas of the surface that are blurry due to a depth of field. Rather, it simply states that blur is removed from "the image".

Additionally, a review of the specification reveals that there is no mention whatsoever of "depth of field" in the originally filed disclosure.

Thus, specifically correcting focus from portions of a surface being located outside a depth of field is new matter not found in the originally filed disclosure.

4. Claims 6-10 and 16-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 6-10 and 16-20 are directed to capturing a test image and a second image that differs from the test image to perform various corrections based on the two images. While the claims find support in the originally filed disclosure (i.e. the originally submitted claims) there is no description in the specification of taking a test image, let alone performing any processing based on a test image and a second image. Thus,

any subject matter in the claims dealing with capturing and processing two different images is not enabled by the specification.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Myers et al. (U.S. Patent 7,171,046).

In regard to claim 1, Myers et al. disclose a system (Fig. 1) for the automated, audible recitation of text arranged in a sequence of one or more words and displayed on a surface area defining an area having a height dimension and a width dimension, said area displaying more than one character of said text along each dimension (text regions within a captured image, column 4, line 60 to column 5, line 6), said system comprising:

a first element capable of distinguishing individual words in said sequence from an image of said surface (OCR processing recognizes words in the image, column 6, lines 24-35 and column 4, lines 6-7);

a second element capable of audibly reciting the words distinguished by said first element, in said sequence (text-to-speech synthesis is performed to audibly output the recognized words through a speaker, column 7, lines 60-63 and column 3, line 52);

a third element capable of capturing an image of said surface such that all characters of said text within said area are captured simultaneously (a camera captures the image, thus capturing all the text simultaneously, column 4, lines 52-65 and column 3, lines 52-54); and

a fourth element capable of automatically processing said captured image so as to correct, without user interaction, for image distortion resulting from capturing an image from a surface not parallel to that of an image sensor in said third element (corrective processing is applied to correct for imagery captured at an oblique angle, i.e. not parallel to that of the image sensor, column 5, lines 35-47), where said processing facilitates automated character recognition of text in a captured said image (OCR processing, column 6, lines 24-35).

In regard to claim 2, Myers et al. disclose said first element includes a programmable electronic dictionary (a lexicon for the OCR is automatically programmatically updated based on information context, column 6, line 59 to column 8, line 7).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Myers et al. (U.S. Patent 7,031,553), in view of Wang et al. (U.S. Patent 5,680,478).

In regard to claim 3, Myers et al. do not disclose said first element includes a spell checker.

Wang et al. disclose a character recognition device that includes a spell checker (spell-checking is performed on OCR text, column 9, lines 57-64).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Myers et al. to include a spell checker, because this would increase reliability by ensuring that the recognized text formed real words.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Myers et al., in view of Hiroe et al. (U.S. Patent 7,088,853).

In regard to claim 5, Myers et al. do not disclose said programmable electronic dictionary includes a phonetic module that automatically recites an estimated pronunciation of a word to a user for verification.

Hiroe et al. disclose a device for pronouncing words recognized from an image (see Abstract), comprising phonetic module that automatically recites an estimated

pronunciation of a word to a user for verification (a new word is presented to a camera, whereupon an estimated pronunciation is presented to the user to verify if it is correct, column 13, lines 27-41 and column 13, line 60 to column 14, line 23).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Myers et al. to include a phonetic module that automatically recites an estimated pronunciation of a word to a user for verification, because this would allow new words not present in the dictionary to be recognized an pronounced correctly, as suggested by Hiroe et al. (column 6, line 67 to column 7, line 29).

10. Claims 4, 6-12, and 14, and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Myers et al., in view of Nakashima et al. (U.S. Patent 6,721,465).

In regard to claim 4, Myers et al. do not disclose said image distortion being correctable by said fourth element includes image blur resulting from portions of said surface being located outside a depth of field of said third element.

Nakashima et al. disclose a portable image capture and correction device (see Fig. 20) that corrects image distortions resulting from portions of a surface being located outside a depth of field of a third element (a focal correction takes several readings, including those outside the depth of field, i.e. focused above the document, and performs correction to achieve a correct focus, by correcting diffusion, column 16, lines 36-54 and column 17, lines 33-49).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Myers et al. to correct image blur resulting from portions of a surface

being located outside a depth of field of the third element, because correcting the blur resulting from portions of the surface being located outside the depth of field (a diffusion amount) improves the image quality, as taught by Nakashima et al., column 3, line 59 to column 4, line 11).

In regard to claim 6, Myers et al. do not disclose said third element includes a processor having software that instructs said third element to capture a test image of at least a portion of said surface, analyze said test image, and based on said analysis, automatically, without user interaction, capture a second image that differs from said test image.

Nakashima et al. disclose a portable image capture and correction device (see Fig. 20) that that instructs a third element to capture a test image of at least a portion of said surface, analyze said test image, and based on said analysis, automatically, without user interaction, capture a second image that differs from said test image (see Fig. 23, a first image is taken at step 3004, then the lens is set to a second focal position at step 3006, and a second image is taken at step 3006, column 18, lines 16-39).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Myers et al. to capture a test image of at least a portion of said surface, analyze said test image, and based on said analysis, automatically, without user interaction, capture a second image that differs from said test image, because taking multiple images allows image correction to be performed that reduces the

distortion of the image, as taught by Nakashima et al. (column 17, line 66 to column 18, line 15).

In regard to claim 7, Myers et al. do not disclose said second image corrects for a skewed test image.

Nakashima et al. disclose said second image corrects for a skewed test image (tilt is corrected, column 17, lines 54-64).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Myers et al. to correct for a skewed test image based on said second image, because such processing reduces distortion in the image in a low cost manner, as taught by Nakashima et al. (column 17, line 66 to column 18, line 15).

In regard to claim 8, Myers et al. do not disclose said second image is more focused than said test image.

Nakashima et al. disclose said second image is more focused than said test image (see Fig. 23, a first reading is taken at a first focus and a second reading is taken at a second focus, column 18, lines 16-39).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Myers et al. to focus said second image more than said first image, because such processing reduces distortion in the image in a low cost manner, as taught by Nakashima et al. (column 17, line 66 to column 18, line 15).

In regard to claim 9, Myers et al. do not disclose said second image corrects for a distortion in the test image resulting from capturing text from a curved surface.

Nakashima et al. disclose said second image corrects for a distortion in the test image resulting from capturing text from a curved surface (geometric deformation of a document that was originally flat, i.e. curving of the surface, is corrected for, column 17, lines 54-64 and column 12, lines 54-57).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Myers et al. to correct for a distortion in the test image resulting from capturing text from a curved surface, because such processing reduces distortion in the image in a low cost manner, as taught by Nakashima et al. (column 17, line 66 to column 18, line 15).

In regard to claim 10, Myers et al. do not disclose said second image is a portion of said first image.

Nakashima et al. disclose said second image is a portion of said first image (i.e. the portion at a second focal length, see column 18, lines 16-38).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Myers et al. so that said second image was a portion of said first image, because such processing reduces distortion in the image in a low cost manner, as taught by Nakashima et al. (column 17, line 66 to column 18, line 15).

In regard to claim 11, Myers et al. disclose a system (Fig. 1) for the automated, audible recitation of text arranged in a sequence of one or more words and displayed on a surface area defining an area having a height dimension and a width dimension, said area displaying more than one character of said text along each dimension (text regions within a captured image, column 4, line 60 to column 5, line 6), said system comprising:

a first element capable of distinguishing individual words in said sequence from an image of said surface (OCR processing recognizes words in the image, column 6, lines 24-35 and column 4, lines 6-7);

a second element capable of audibly reciting the words distinguished by said first element, in said sequence (text-to-speech synthesis is performed to audibly output the recognized words through a speaker, column 7, lines 60-63 and column 3, line 52);

a third element capable of capturing an image of said surface such that all characters of said text within said area are captured simultaneously (a camera captures the image, thus capturing all the text simultaneously, column 4, lines 52-65 and column 3, lines 52-54); and

a fourth element capable of automatically processing said captured image so as to correct, without user interaction, for image distortion resulting from capturing an image from a surface not parallel to that of an image sensor in said third element (corrective processing is applied to correct for imagery captured at an oblique angle, i.e. not parallel to that of the image sensor, column 5, lines 35-47), where said processing facilitates automated character recognition of text in a captured said image (OCR processing, column 6, lines 24-35).

While Myers et al. disclose said third element is a digital camera, Myers et al. are silent as to the details of the image capturing portion.

Nakashima et al. disclose a portable image capture and correction device (see Fig. 20) that includes a third element comprising:

an array of light-sensitive members that each convert light incident on said members to respective electromagnetic signals (CCD sensor, column 17, lines 8-10);

a lens capable of focusing an image on said array (lens, column 17, lines 8-10); and

a circuit capable of receiving said respective electromagnetic signals and creating an electronic image associated with said image (the CCD further creates the digital images, column 17, lines 8-10).

It would have been obvious to one of ordinary skill in the art at the time of invention to include a standard array of light sensitive members, a lens, and circuit to create a digital image in Myers et al., because it would allow a quality image could be captured.

In regard to claim 12, Myers et al. disclose said first element includes a programmable electronic dictionary (a lexicon for the OCR is automatically programmatically updated based on information context, column 6, line 59 to column 8, line 7).

In regard to claim 14, Myers et al. do not disclose said image distortion being correctable by said fourth element includes image blur resulting from portions of said surface being located outside a depth of field of said third element.

Nakashima et al. disclose a portable image capture and correction device (see Fig. 20) that corrects image distortions resulting from portions of a surface being located outside a depth of field of a third element (a focal correction takes several readings, including those outside the depth of field, i.e. focused above the document, and performs correction to achieve a correct focus, by correcting diffusion, column 16, lines 36-54 and column 17, lines 33-49).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Myers et al. to correct image blur resulting from portions of a surface being located outside a depth of field of the third element, because correcting the blur resulting from portions of the surface being located outside the depth of field (a diffusion amount) improves the image quality, as taught by Nakashima et al., column 3, line 59 to column 4, line 11).

In regard to claim 16, Myers et al. do not disclose said third element includes a processor having software that instructs said third element to capture a test image of at least a portion of said surface, analyze said test image, and based on said analysis, automatically, without user interaction, capture a second image that differs from said test image.

Nakashima et al. disclose a portable image capture and correction device (see Fig. 20) that that instructs a third element to capture a test image of at least a portion of said surface, analyze said test image, and based on said analysis, automatically, without user interaction, capture a second image that differs from said test image (see Fig. 23, a first image is taken at step 3004, then the lens is set to a second focal position at step 3006, and a second image is taken at step 3006, column 18, lines 16-39).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Myers et al. to capture a test image of at least a portion of said surface, analyze said test image, and based on said analysis, automatically, without user interaction, capture a second image that differs from said test image, because taking multiple images allows image correction to be performed that reduces the distortion of the image, as taught by Nakashima et al. (column 17, line 66 to column 18, line 15).

In regard to claim 17, Myers et al. do not disclose said second image corrects for a skewed test image.

Nakashima et al. disclose said second image corrects for a skewed test image (tilt is corrected, column 17, lines 54-64).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Myers et al. to correct for a skewed test image based on said

second image, because such processing reduces distortion in the image in a low cost manner, as taught by Nakashima et al. (column 17, line 66 to column 18, line 15).

In regard to claim 18, Myers et al. do not disclose said second image is more focused than said test image.

Nakashima et al. disclose said second image is more focused than said test image (see Fig. 23, a first reading is taken at a first focus and a second reading is taken at a second focus, column 18, lines 16-39).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Myers et al. to focus said second image more than said first image, because such processing reduces distortion in the image in a low cost manner, as taught by Nakashima et al. (column 17, line 66 to column 18, line 15).

In regard to claim 19, Myers et al. do not disclose said second image corrects for a distortion in the test image resulting from capturing text from a curved surface.

Nakashima et al. disclose said second image corrects for a distortion in the test image resulting from capturing text from a curved surface (geometric deformation of a document that was originally flat, i.e. curving of the surface, is corrected for, column 17, lines 54-64 and column 12, lines 54-57).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Myers et al. to correct for a distortion in the test image resulting from capturing text from a curved surface, because such processing reduces distortion in the

image in a low cost manner, as taught by Nakashima et al. (column 17, line 66 to column 18, line 15).

In regard to claim 20, Myers et al. do not disclose said second image is a portion of said first image.

Nakashima et al. disclose said second image is a portion of said first image (i.e. the portion at a second focal length, see column 18, lines 16-38).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Myers et al. so that said second image was a portion of said first image, because such processing reduces distortion in the image in a low cost manner, as taught by Nakashima et al. (column 17, line 66 to column 18, line 15).

11. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Myers et al., in view of Nakashima et al., and further in view of Wang et al.

In regard to claim 13, Myers et al. and Nakashima et al. do not disclose said first element includes a spell checker.

Wang et al. disclose a character recognition device that includes a spell checker (spell-checking is performed on OCR text, column 9, lines 57-64).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Myers et al. and Nakashima et al. to include a spell checker, because this would increase reliability by ensuring that the recognized text formed real words.

12. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Myers et al., in view of Nakashima et al., and further in view of Hiroe et al. (U.S. Patent 7,088,853).

In regard to claim 15, Myers et al. and Nakashima et al. do not disclose said programmable electronic dictionary includes a phonetic module that automatically recites an estimated pronunciation of a word to a user for verification.

Hiroe et al. disclose a device for pronouncing words recognized from an image (see Abstract), comprising phonetic module that automatically recites an estimated pronunciation of a word to a user for verification (a new word is presented to a camera, whereupon an estimated pronunciation is presented to the user to verify if it is correct, column 13, lines 27-41 and column 13, line 60 to column 14, line 23).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Myers et al. and Nakashima et al. to include a phonetic module that automatically recites an estimated pronunciation of a word to a user for verification, because this would allow new words not present in the dictionary to be recognized an pronounced correctly, as suggested by Hiroe et al. (column 6, line 67 to column 7, line 29).

13. Claims 21-26 and 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakashima et al., in view of Myers et al.

In regard to claim 21, Nakashima et al. disclose an electronic device (Fig. 20) comprising a processor (reading unit 21, and corrections units 202 and 213 all perform processing functions, column 16, liens 18-26), a lens in proximity to an array of light sensitive members that each convert light into a respective electrical signal (CCD sensor and lens, column 17, lines 9-11), whereby

said lens is capable of focusing an optical image containing text in a sequence of words on said array which converts said optical image to an electronic image containing said text (the lens is focused on a document with character information and an image of the document is captured, column 17, lines 8-37);

said processor includes a page prompt module that is capable of identifying a page number in the header or footer of an image, and prompting an audio device to recite a warning to a user if the apparatus receives images of pages of text in nonsequential order, prior to said device capturing the words on a page determined to be in a nonsequential order (a book that is continuously read is scanned at the upper or lower part of the image to detect page numbers, and if a page is skipped, prior to capturing the image, the user is warned audibly, column 19, line 61 to column 20, line 16).

Nakashima et al. do not disclose an audio device capable of audibly reciting said words in said sequence.

Myers et al. disclose an electronic device including an audio device capable of audibly reciting said words in said sequence (text-to-speech synthesis is performed to

audibly output words recognized by OCR through a speaker, column 7, lines 60-63 and column 3, line 52).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Nakashima et al. to include an audio device capable of audibly reciting said words in said sequence, because outputting the recognized words audibly provides a plurality of applications, such as, e.g. aiding visually impaired individuals, as suggested by Myers et al. (column 2, lines 21-29).

In regard to claim 22, Nakashima et al. disclose said electronic device is a PDA (column 21, lines 27-29).

In regard to claim 23, while Nakashima et al. disclose a plurality of hardware embodiments, Nakashima et al. do not specifically disclose the electronic device is a laptop computer.

Myers et al. disclose a substitute portable electronic device for audibly reciting words captured in an image, wherein the electronic device is a laptop computer (a portable general purpose computer, column 3, lines 36-44).

One of ordinary skill in the art could have substituted the laptop computer of Myers et al. for any of the plurality of computing devices of Nakashima et al. and the result of the substitution would have predictably resulted in a laptop computer that would audibly reciting words captured in an image and warn the user if the page numbering were in a nonsequential order.

In regard to claim 24, Nakashima et al. do not disclose said processor includes a programmable dictionary.

Myers et al. disclose electronic device including a programmable dictionary (a lexicon for the OCR is automatically programmatically updated based on information context, column 6, line 59 to column 8, line 7).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Nakashima et al. to include a programmable dictionary, because such a dictionary would increase the accuracy of recognition based on the information context.

In regard to claim 25, Nakashima et al. disclose a self-contained power source (see Fig. 32, a portable device 1925 necessarily includes its own power source).

In regard to claim 26, Nakashima et al. disclose said processor is capable of correcting for at least one of a skew, blur, and distortion (tilt, diffusion, and geometric deformation, column 17, lines 44-64).

In regard to claim 28, Nakashima et al. disclose a cell phone (Fig. 32, pocket telephone 1925, column 21, lines 27-29), comprising:

a body portion containing a keypad (see Fig. 32), an audio receiver and an audio transmitter (a telephone necessarily includes a speaker and microphone for receiving and transmitting audio);

a digital camera in said body portion having an outwardly facing lens (sensor 1920, column 21, lines 29-32);

a processor capable of receiving an image containing a text sequence from said digital camera and distinguishing words in said sequence (see Figs. 36A-D, character recognition is performed on various areas, column 22, lines 49-60);

storage storing a plurality of templates for identifying the layout format of text in an image captured by said digital camera (see Figs. 36A-D, an image analysis unit determines different character areas from provided layout, column 22, lines 31-60).

Nakashima et al. do not disclose causing said audio transmitter to recite said individual words in said sequence.

Myers et al. disclose an electronic device including an audio device capable of audibly reciting said words in said sequence (text-to-speech synthesis is performed to audibly output words recognized by OCR through a speaker, column 7, lines 60-63 and column 3, line 52).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Nakashima et al. to include an audio device capable of audibly reciting said words in said sequence, because outputting the recognized words audibly provides a plurality of applications, such as, e.g. aiding visually impaired individuals, as suggested by Myers et al. (column 2, lines 21-29).

In regard to claim 29, while Nakashima et al. disclose saving templates for identifying the layout format of text in an image, Nakashima et al. and Myers et al. do not specifically disclose one of the templates is in the layout format of a menu.

Myers et al. disclose menus are a common image that are captured for audible recitation in a portable electronic device (see column 4, lines 42-51, naming several common images that would be captured by a portable electronic device).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Nakashima et al. and Myers et al. to include a menu template in the plurality of templates, because this would ensure there was a template that would match a commonly applied application for the portable electronic device (i.e. reading menus).

In regard to claim 30, Nakashima et al. disclose said processor is capable of correcting for at least one of a skew, blur, and distortion (tilt, diffusion, and geometric deformation, column 17, lines 44-64).

In regard to claim 31, Nakashima et al. disclose said processor includes a page prompt module that is capable of identifying a page number in the header or footer of an image, and prompting the audio device to recite a warning to a user if the apparatus receives images of pages of text in nonsequential order (a book that is continuously read is scanned at the upper or lower part of the image to detect page numbers, and if a

page is skipped, prior to capturing the image, the user is warned audibly, column 19, line 61 to column 20, line 16).

14. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakashima et al., in view of Myers et al., and further in view of Fujimoto et al. (U.S. Patent Application Publication 2002/0031264).

In regard to claim 32, while Nakashima et al. disclose saving templates for identifying the layout format of text in an image, Nakashima et al. and Myers et al. do not specifically disclose at least one of said templates is in the layout format of a newspaper.

Fujimoto et al. disclose an electronic device for capturing images to be recognizes, wherein the layout format of the image is determined, including the layout format of a newspaper (see Fig. 1, a newspaper image's layout is determined, page 3 paragraph 60).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Nakashima et al. and Myers et al. to include a template for a layout format of a newspaper, because determining the layout of newspaper text is advantageous for recognizing characters in the newspaper, as taught by Fujimoto et al. (page 1, paragraph 3).

15. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakashima et al., in view of Myers et al., and further in view of Piehn et al. (U.S. Patent Application Publication 2001/0056342).

In regard to claim 33, while Nakashima et al. disclose saving templates for identifying the layout format of text in an image, Nakashima et al. and Myers et al. do not specifically disclose one of said templates corresponds to a phone book.

Piehn et al. disclose portable device for audibly reciting words recognized in an image (see Abstract), wherein phone books are a common image captured for audible recitation by the device (see page 3, paragraph 28, naming several common images that would be captured by a portable electronic device).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Nakashima et al. and Myers et al. to include a phone book layout template, because this would ensure there was a template that would match a commonly applied application for the portable electronic device (i.e. reading phone books).

16. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakashima et al., in view of Myers et al., in further view of Piehn et al., and further in view of Maes et al. (U.S. Patent 7,092,496).

In regard to claim 34, Nakashima et al., Myers et al., and Piehn et al. do not disclose the cell phone includes a button and said one of said templates instructs said

processor to dial the phone number of a phone book entry being recited when the user presses the button.

Maes et al. disclose a cell phone that includes a button (Key for providing keyed-in command) that instructs a processor to dial the phone number of a phone book entry being recognized when the user presses said button (a user instructs the phone, via a keyed-in command, to visually recognize a phone number and automatically dial the number that is recognized, see column 9, lines 59-67 and specific visual application at column 10, lines 48-62).

It would have been obvious to one of ordinary skill in the art at the time of invention to further modify Nakashima et al., Myers et al., and Piehn et al. to instruct the processor to dial the phone number of a phone book entry being recited when the user pressed the button, because this would provide a user a convenient, "one-touch" method for capturing and dialing a phone number out of a phone book.

***Conclusion***

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Myers et al. (U.S. Patent U.S. Patent 7,031,553) disclose the processing techniques used by Myers et al. (used in the rejections) for correcting images at "oblique" angles (i.e. an angle not parallel with the surface of an image sensor).

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN L. ALBERTALLI whose telephone number is

(571)272-7616. The examiner can normally be reached on Monday-Thursday, 8 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R Hudspeth/
Supervisory Patent Examiner, Art Unit 2626

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